Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-II-476

Name: 21016/US40 over Beaver Creek

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ____A ____B ____C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. WA-II-~~1114~~ 476

SHA Bridge No. 21016 Bridge name US 40 over Beaver Creek

LOCATION:
Street/Road name and number [facility carried] US 40

City/town Wagners Crossroads Vicinity X

County Washington

This bridge projects over: Road ____ Railway____ Water X___ Land ____

Ownership: State ___X____ County ___ Municipal _____ Other _____

HISTORIC STATUS:
Is bridge located within a designated historic district? Yes _____ No X_____
National Register-listed district _____ National Register-determined-eligible district _____
Locally-designated district _____ Other _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ Truss -Covered ____ Trestle _____ Timber-And-Concrete ____

Stone Arch Bridge ___

Metal Truss Bridge ___

Movable Bridge _____:
Swing _____ Bascule Single Leaf _____ Bascule Multiple Leaf ___
Vertical Lift __ Retractile _____ Pontoon _____

Metal Girder _____:
Rolled Girder _____ Rolled Girder Concrete Encased _____
Plate Girder _____ Plate Girder Concrete Encased _____

Metal Suspension ____

Metal Arch ___

Metal Cantilever _____

Concrete X___:
Concrete Arch_____ Concrete Slab_____ Concrete Beam _____ Rigid Frame X_____

Other _____ Type Name _____

DESCRIPTION:

Describe Setting:

Bridge 21016 carries US 40 over Beaver Creek in a southeast/northwest direction. The bridge is located in the Wagners Crossroads, Maryland area, just outside of Hagerstown. The bridge is located in a generally flat and rural area. The creek flows in a northwestern direction. There is a nineteenth-century house to the southwest of the bridge, attesting to the age of the route, but no other structures are located in the immediate area.

Describe Superstructure and Substructure:

Bridge 21016 is a two-span concrete rigid frame bridge. The span lengths are 42' each. The roadway width is 40'-0". The parapet walls, abutments, wingwalls, and pier are handsomely finished with large stones, which are used to outline the two elliptical arches. The wingwalls and abutments are slightly battered and the arches recessed, further adding visual interest to the structure. The concrete heart of the bridge is visible beneath the arches.

Discuss Major Alterations:

No major alterations have been made to this extremely intact bridge.

HISTORY:

WHEN was bridge built (actual date or date range) 1936
This date is: Actual X **Estimated** _____
Source of date: Plaque _____ **Design plans** X **County bridge files/inspection form** _____
Other (specify) SHA Files and State inventory form

WHY was bridge built? To provide a reliable crossing of US 40 over Beaver Creek, to meet local and regional transportation needs via the construction of a modern highway. Plans dated February, 1936 include a note that the "Existing bridge substructure, and proposed stream change not shown in this view." (The roadway sheet is not in the file.) This note indicates that an earlier bridge, or the remnants of an earlier bridge, stood at or near this crossing. The appearance of this earlier bridge is not known.

WHO was the designer State Roads Commission

WHO was the builder _____

WHY was bridge altered? [check N/A X **if not applicable]**

Was bridge built as part of organized bridge-building campaign? Yes X **No** _____

This bridge was built by the State Roads Commission as part of the Good Roads Movement and the construction of a new Route 40.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _X_ B- Person _____
C- Engineering/architectural character _X___

Was bridge constructed in response to significant events in Maryland or local history? No_ Yes _X_
If yes, what event?
This bridge was one of a small number of concrete rigid frame bridges erected in Maryland in the 1930s and 1940s. Its monolithic frame reflects advances in reinforced concrete structural engineering in the early twentieth century. These bridges were built throughout the state, primarily by the State Roads Commission and the city of Baltimore, as part of the Good Roads Movement. This bridge, along with bridges 21013 (1941) and 21015 (1936) in Washington County and 13032 (1939) in Howard County, was erected as part of the construction of U.S. 40 by the State Roads Commission in the 1930s, one of Maryland's early major highway projects.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth & development of the area? No ____ Yes _X____
U.S. 40, an early major highway project in the state, had a significant impact on residential, agricultural, commercial, and industrial growth in Maryland along its path from Aberdeen through Baltimore and west to Frederick.

Is the bridge located in an area which may be eligible for historic designation? No X Yes _____
Would the bridge add to _____or detract from _____historic & visual character of the possible district?

Is the bridge a significant example of its type? No __ Yes _X____
Concrete bridges are the largest component of Maryland's historic bridges. Their numbers reflect how quickly they became popular after their introduction to the state and the country at the opening of the twentieth century. Many in Maryland are purely functional structures, but their plastic nature made them amenable to graceful curves and ornamental parapets that reflected the influence of the City Beautiful movement during the first part of the twentieth century. The versatility and strength of reinforced concrete bridges, along with their plasticity, made them the preferred choice for bridges by state and county highway departments in Maryland and throughout the country in the 1910s. The standard plans of the State Roads Commission of the teens, twenties, and thirties made their use almost universal during that period.

While concrete bridges as a whole are very common in Maryland, reinforced concrete rigid frame bridges make up one of the smallest groups of historic bridge types in the state. There are probably only about a dozen such structures standing in the state under county or state control that were erected prior to 1945. The rigid frame bridge, unlike other reinforced concrete spans, is monolithic. It is characterized by a superstructure and substructure, including abutments, designed as a continuous unit. (Concrete balustrades, cast afterwards, are not part of the monolithic design.) The rigid frame was an important engineering advance for reinforced concrete bridges. It was developed by German engineers and Brazilian Emilio Baumgart around 1920, and introduced to the United States primarily through the efforts of New York engineer Arthur G. Hayden in 1922-1923.

Concrete rigid frame bridges became increasingly popular in the 1930s and 1940s. It was during this period that Maryland's few examples of the type were erected. These include bridges 1030 (1937, 1992) in Allegany County; BC-1406 (1938) and BC-3402 (1940) in Baltimore City; 5013 (1936) in Caroline County (1936); 6031 (1934) in Carroll County ; 10058 (1941) in Frederick County; 11018 (1937) in Garrett County; 13032 (1939) in Howard County; 21013 (1941), 21015 (1936), and 21016 (1936) in Washington County; and WO-801 (c.1930) in Worcester County. These bridges generally have one or two spans of between 30 and 60 feet; the

longest, BC-1406, measures 68 feet. With the exception of WO-801, the history of which remains clouded, they were built by the state or the city of Baltimore.

The stone facing and arches of this bridge, and of fellow Route 40 Washington County bridges 21013 and 21015, are purely decorative elements that provide an architectural character not found at the state's other concrete rigid frame bridges. They were added to these bridges to emulate the appearance and finish of the original nineteenth-century stone-arch bridges of the National Pike.

This bridge falls within the 1910-1940 period of significance for concrete bridges, during which reinforced concrete bridge construction was increasingly standardized in the state and particular subtypes, including the rigid frame, were introduced to the state road network.

Does bridge retain integrity [in terms of National Register] of important elements described in Context Addendum? No ____ Yes X____

Is bridge a significant example of work of manufacturer, designer and/or engineer? No__ Yes X
The combination of a rigid frame, handsome stonework and articulation, and two similar bridges located on the same route show the sensitivity of state engineers and designers to engineering advances, major parkway design, and aesthetics.

Should bridge be given further study before significance analysis is made? No X___ Yes _____
It is believed that no further research is necessary to determine the eligibility of this bridge for listing in the National Register. It should be compared with the other concrete rigid frame bridges listed above and a determination should be made whether all of them (excluding 1030 in Allegany County, 13032 in Howard County, and WO-081 in Worcester County, which have lost their integrity) are eligible to the Register because of their rarity and/or good representation of the type, or just the best examples. Additional research, however, which could be conducted as part of any future National Register nomination prepared for the bridge, might provide further information about its history and environs.

BIBLIOGRAPHY:

Bridge inspection reports and files of the Maryland State Highway Administration.

Condit, Carl. *American Building*. Chicago: University of Chicago Press, 1968.

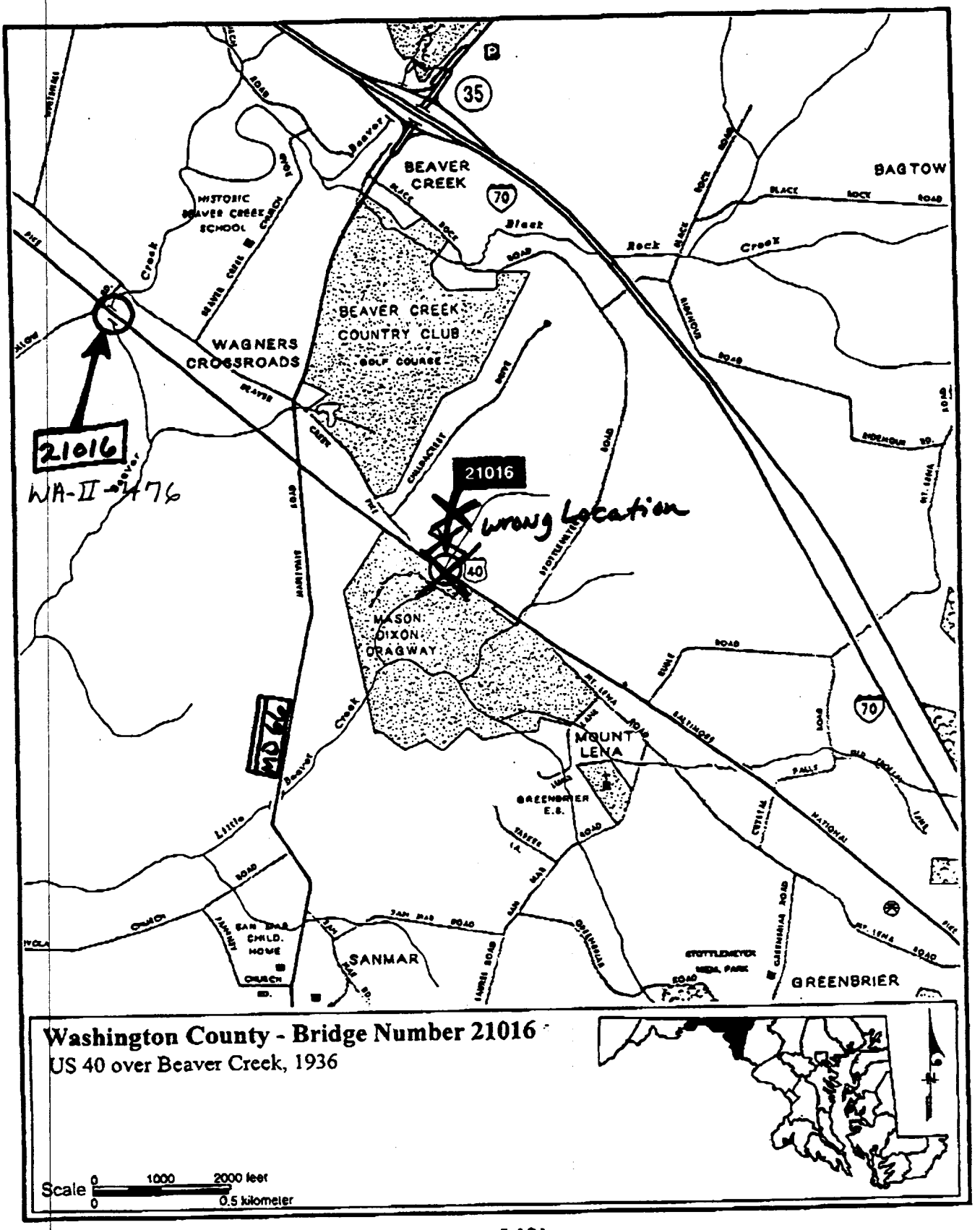
County survey files of the Maryland Historical Trust.

P.A.C. Spero & Company and Louis Berger & Associates, Inc. *Historic Bridges in Maryland: Historic Context Report*. Prepared for the Maryland State Highway Administration, September, 1994.

SURVEYOR/SURVEY INFORMATION:

Date bridge recorded _____2/23/95

Name of surveyor Charles Ziegler/Marvin Brown
Organization/Address GREINER, INC., 2219 York Road, Suite 200, Timonium, Maryland 21093-3111
Phone number 410-561-0100 **FAX number** 410-561-1150


21016
WA-II-476
21016
wrong location
BEAVER CREEK
BAGTOW
WAGNERS CROSSROADS
BEAVER CREEK COUNTRY CLUB
GOLF COURSE
MASON-DIXON DRAGWAY
MOUNT LENA
GREENBRIER E.S.
SANMAR
GREENBRIER
Washington County - Bridge Number 21016
US 40 over Beaver Creek, 1936
Scale 0 1000 2000 feet
0 0.5 kilometer


BEAVER
CREEK

WA-II-476 BR # 2101690 21016

OVER BEAVER CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/23/95

S. H. A

SOUTHEAST APPROACH

1 OF ~~4~~ 3


BEAVER
CREEK

WA-II-176 BR # 210640

OVER BEAVER CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/23/95

S. H. A.

NORTHWEST APPROACH

2 OF 5

WA-II-44 BR# ~~210640~~ 21016

OVER BEAVER CREEK

WASHINGTON CO, MD.

CHARLES ZIEGLER

2/23/95

S.H.A.

NORTHEAST ELEVATION (UPSTREAM)

3 of 3

~~4~~ OF ~~4~~

WA-II-476
US 40 Bridge Over Beaver Creek
Wagners Crossroads
public (unrestricted) 1936

Built in 1936, this rigid frame bridge, constisting of two segmental arches, each 42 feet in length, carries U.S. 40 over Beaver Creek, outside of Wagners Crossroads, Maryland. The flanks of the structure are faced in random ashlar granite and the arches are faced with matching voussoirs. The two arches meet centrally at a cutwater, the form of which is echoed as buttresses on the abutments. There is a wide stone coping along the parapet wall.

Architecturally, this bridge is significant as a poured concrete structure with unique stone facing. There are few comparable contemporary structures in the state. The only similar bridges in the state ownership are those of the Baltimore/Washington Parkway, which are more recent, and the elegant bridge at Glyndon in Baltimore County (BA-2070). It is particularly significant that this rare stone facing should be used in Washington County, which is noted for its fine collection of early 19th century stone arch bridges. This bridge is one of six historic stone bridges--part of Maryland's state road system in Washington County,a nd one of 10 historic stone bridges throughout the entire state road network--identified by the Maryland Historical Trust for the Maryland Department of Transportation in a jointly conducted survey which took place during 1980-81.

W 21016

MARYLAND HISTORICAL TRUST

WA-II-475

MAGI #2240013817

INVENTORY FORM FOR STATE HISTORIC SITES SURVEY

1 NAME

HISTORIC

AND/OR COMMON

U.S. 40 over Beaver Creek Bridge

2 LOCATION

STREET & NUMBER

CITY, TOWN

Wagners Crossroads ___ VICINITY OF

CONGRESSIONAL DISTRICT

STATE

Maryland

COUNTY

Washington

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
___DISTRICT	X PUBLIC	X OCCUPIED	___AGRICULTURE	___MUSEUM
___BUILDING(S)	___PRIVATE	___UNOCCUPIED	___COMMERCIAL	___PARK
X STRUCTURE	___BOTH	___WORK IN PROGRESS	___EDUCATIONAL	___PRIVATE RESIDENCE
___SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	___ENTERTAINMENT	___RELIGIOUS
___OBJECT	___IN PROCESS	___YES: RESTRICTED	___GOVERNMENT	___SCIENTIFIC
	___BEING CONSIDERED	X YES: UNRESTRICTED	___INDUSTRIAL	X TRANSPORTATION
		___NO	___MILITARY	___OTHER

4 OWNER OF PROPERTY

NAME

State Highway Administration Telephone #:

STREET & NUMBER

300 West Preston Street

CITY, TOWN

Baltimore ___ VICINITY OF

STATE, zip code

Maryland 21201

5 LOCATION OF LEGAL DESCRIPTION

Liber #:

Folio #:

COURTHOUSE
REGISTRY OF DEEDS, ETC

Washington County Courthouse

STREET & NUMBER

CITY, TOWN

Hagerstown

STATE

Maryland

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

DATE

___FEDERAL ___STATE ___COUNTY ___LOCAL

DEPOSITORY FOR
SURVEY RECORDS

CITY, TOWN

STATE

7 DESCRIPTION

WA-II-476

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	X UNALTERED	X ORIGINAL SITE
X GOOD	__RUINS	__ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

A rigid frame bridge of two segmental arches of 42', each, in length. The total length of the structures is increased somewhat by the approach abutments. The two arches meet centrally at a cutwater, the form of which is echoed as buttrusses on the abutments.

The flanks of the structure are faced in random ashlar granite. The arches are faced with matched voussoirs. There is a wide stone coping along the parapet wall.

A "rigid frame" structure is essentially a box culvert without floor, a structure of poured concrete.

CONTINUE ON SEPARATE SHEET IF NECESSARY

WR-II-476

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION	
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE	
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE	
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN	
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER	
__1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	X TRANSPORTATION	
X 1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)	
		__INVENTION			

SPECIFIC DATES 1936 BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

This structure is notable for its appearance, for the relative richness of its materials. The technical aspects of its construction are not of great interest but the fact that it was faced in stone is important. There are few comparable structures in the state. In particular the bridges of the Baltimore/Washington Parkway, which are more recent, and the elegant bridge at Glydon, in Baltimore County (BA-2070) are the only similar bridges in state ownership known to this project. It is particularly significant that this rare design should be used in Wash. County, which is noted for its fine collection of early 19th century stone arch bridges.

CONTINUE ON SEPARATE SHEET IF NECESSARY

WR-II-476

9 MAJOR BIBLIOGRAPHICAL REFERENCES

see continuation sheet.

CONTINUE ON SEPARATE SHEET IF NECESSARY

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

Quadrangle Scale: 1:24 000
UTM References: 18.271910.4384070
Quadrangle Name: Funkstown, MD

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	COUNTY
STATE	COUNTY

11 FORM PREPARED BY

NAME / TITLE
John Hnedak/ M/DOT Survey Manager

ORGANIZATION
Maryland Historical Trust

DATE
1980

STREET & NUMBER
21 State Circle

TELEPHONE
(301) 269-2438

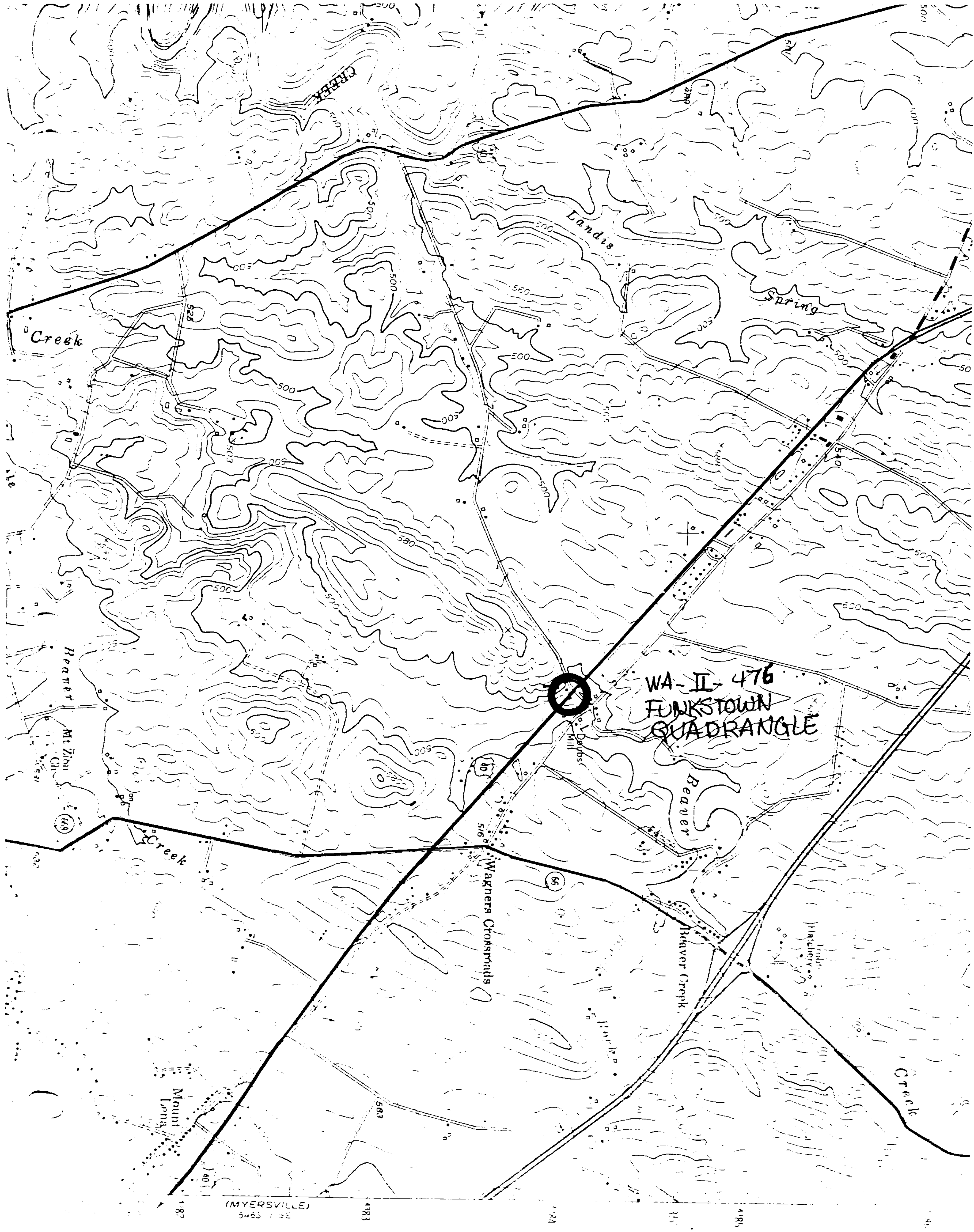
CITY OR TOWN
Annapolis

STATE
Maryland 21401

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature, to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 Supplement.

The Survey and Inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

RETURN TO: Maryland Historical Trust
The Shaw House, 21 State Circle
Annapolis, Maryland 21401
(301) 267-1438


WA-II-476
FUNKSTOWN QUADRANGLE
Creek
Landis
Spring
Beaver
Mt Zion Ch
Wagners Crossroads
Dubbs Mill
Beaver Creek
Trout Hatchery
Mount Lena
Creek
(MYERSVILLE)

~~WA-II-E-1~~ WA-II-476

US 40 / Beaver Cr. Br.

Wagners Crossroads Md.

2/80 JH